

## CLAIMS

1. A remote diagnosis apparatus for diagnosing a skin lesion, which is communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a database for storing data which are received from the first user terminal and relate to the skin lesion, and

a diagnosis program updated based on the data stored in the database and diagnosing skin images for the skin lesion,

the remote diagnosis apparatus receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope from the second user terminal; diagnosing the received skin image for the skin lesion with the use of the diagnosis program; and sending a diagnosis result to a predetermined destination.

2. A remote diagnosis apparatus communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a database for storing data which are received from the first user terminal and relate to a skin lesion;

a diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion; and

an image storage for storing the skin images to be diagnosed, the remote diagnosis apparatus

receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion from the second user terminal and

storing the received skin image in the image storage after associating the source information with the skin image, and

the diagnosis program taking out the skin image stored in the image storage to diagnose the skin image for the skin lesion and sending a diagnosis result to a destination designated by the source information.

3. A remote diagnosis apparatus communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a data receiving unit for receiving data relating to a skin lesion from the first user terminal;

a database for storing data relating to the skin lesion, which stores the received data;

a receiving unit for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion from the second user terminal;

an image storage for storing the received skin image after associating the source information with the skin image;

a diagnosis program which is updated based on the data stored in the database and takes out the skin image stored in the image storage to diagnose the skin image for the skin lesion; and

a sending unit for sending a diagnosis result of the diagnosis program to a destination designated by the source information.

4. A remote diagnosis apparatus communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a database for storing data which are received from the first user terminal and relate to a skin lesion;

a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion;

and

a second diagnosis program for diagnosing based on a comparison of plural diagnosis results for the skin lesion,

the remote diagnosis apparatus

receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope from the second user terminal to diagnose the first skin image for the skin lesion with the use of the first diagnosis program,

storing a diagnosis result for the first skin image,

receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point from the second user terminal and diagnosing the second skin image for the skin lesion with the use of the first diagnosis program,

diagnosing the skin lesion by comparing the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program, and

sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a predetermined destination.

5. A remote diagnosis apparatus communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a database for storing data which are received from the first user terminal and relate to a skin lesion;

a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion;

a second diagnosis program for diagnosing based on a comparison of plural diagnosis results for the skin lesion;

an image storage for storing the skin images to be diagnosed;  
and

a diagnosis result storage for storing a diagnosis result,  
the remote diagnosis apparatus

receiving a first skin image of a pigmentary deposition  
portion picked up by the camera device with dermoscope, source  
information for identifying the pigmentary deposition portion, and  
first time information relating to a time of sending the first skin  
image from the second user terminal,

storing the first skin image in the image storage after  
associating the source information and the first time information  
with the first skin image,

taking out the first skin image stored in the image storage  
to diagnose the first skin image for the skin lesion with the use  
of the first diagnosis program,

storing a diagnosis result for the first skin image in the  
diagnosis result storage after associating the source information  
and the first time information with the diagnosis result,

receiving a second skin image of the pigmentary deposition  
portion same as the first skin image picked up by the camera device  
with dermoscope at a different time point, source information for  
identifying the pigmentary deposition portion, and second time  
information relating to a time of sending the second skin image  
from the second user terminal,

storing the second skin image in the image storage after  
associating the source information and the second time information  
with the second skin image,

taking out the second skin image stored in the image storage  
to diagnose the second skin image for the skin lesion with the use

of the first diagnosis program,

comparing the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program to diagnose further for the skin lesion, and

sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

6. A remote diagnosis apparatus communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope, comprising:

a database for storing data relating to a skin lesion;

a data receiving unit for receiving data relating to the skin lesion from the first user terminal;

a database for storing data relating to the skin lesion, which stores the received data;

a receiving unit for receiving a skin image of a pigmented deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmented deposition portion, and time information relating to a time of sending the skin image from the second user terminal;

an image storage for storing the received skin image after associating the source information and the time information with the skin image;

a first diagnosis program which is updated based on the data stored in the database and takes out the skin image stored in the image storage to diagnose the skin image for the skin lesion;

a diagnosis result storage for storing a diagnosis result after associating the source information and the time information

with the diagnosis result;

a second diagnosis program capable of diagnosing the skin lesion based on plural diagnosis results having different time information; and

a sending unit for sending at least one of diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

7. The remote diagnosis apparatus according to any one of claims 1 to 6, characterized in that the second user terminal is provided with a portable telephone function.

8. The remote diagnosis apparatus according to any one of claims 1 to 7, characterized in that the second user terminal communicates via the Internet.

9. A remote diagnosis apparatus communicably connected to a database control server provided with a database for storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope, comprising

a diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion,

the remote diagnosis apparatus

receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope from the user terminal,

diagnosing the received skin image for the skin lesion with the use of the diagnosis program, and

sending a diagnosis result to a predetermined destination.

10. A remote diagnosis apparatus communicably connected to a database control server provided with a database for

storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope,  
comprising

a diagnosis program which is updated based on the data stored  
in the database and diagnoses skin images for the skin lesion and

an image storage for storing the skin images to be diagnosed,  
the remote diagnosis apparatus

receiving a skin image of a pigmentary deposition portion  
picked up by the camera device with dermoscope and source  
information for identifying the pigmentary deposition portion from  
the user terminal,

storing the received skin image in the image storage after  
associating the source information with the skin image,

diagnosing the skin image stored in the image storage for  
the skin lesion with the use of the diagnosis program, and

sending a diagnosis result to a destination designated by  
the source information.

11. A remote diagnosis apparatus communicably connected to  
a database control server provided with a database for  
storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope,  
comprising:

a receiving unit for receiving a skin image of a pigmentary  
deposition portion picked up by the camera device with dermoscope  
and source information for identifying the pigmentary deposition  
portion from the user terminal;

an image storage for storing the received skin image after  
associating the source information with the skin image;

a diagnosis program which is updated based on the data stored

in the database and takes out the skin image stored in the image storage to diagnose the skin image for the skin lesion; and

a sending unit for sending a diagnosis result of the diagnosis program to a destination designated by the source information.

12. A remote diagnosis apparatus communicably connected to a database control server provided with a database for storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope, comprising

a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion and

a second diagnosis program for diagnosing based on plural diagnosis results for the skin lesion,

the remote diagnosis apparatus

receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope from the user terminal,

diagnosing the first skin image for the skin lesion with the use of the first diagnosis program,

storing a diagnosis result for the first skin image,

receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point from the user terminal,

diagnosing the second skin image for the skin lesion with the use of the first diagnosis program,

comparing the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program, and



sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

13. A remote diagnosis apparatus communicably connected to a database control server provided with a database for storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope, comprising:

a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion;

a second diagnosis program for diagnosing based on plural diagnosis results for the skin lesion;

an image storage for storing the skin images to be diagnosed; and

a diagnosis result storage for storing a diagnosis result, the remote diagnosis apparatus

receiving a first skin image of a pigmentedary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentedary deposition portion, and first time information relating to a time of sending the first skin image from the user terminal,

storing the first skin image in the image storage after associating the source information and the first time information with the first skin image,

taking out the first skin image stored in the image storage to diagnose the first skin image for the skin lesion with the use of the first diagnosis program,

storing a diagnosis result for the first skin image in the diagnosis result storage after associating the source information

and the first time information with the diagnosis result,

receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point, source information for identifying the pigmentary deposition portion, and second time information relating to a time of sending the second skin image from the user terminal,

storing the second skin image in the diagnosis result storage after associating the source information with the second skin image,

taking out the stored second skin image to diagnose the second skin image for the skin lesion with the use of the first diagnosis program,

diagnosing through a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program, and

sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

14. A remote diagnosis apparatus communicably connected to a database control server provided with a database for storing data relating to a skin lesion and

a user terminal provided with a camera device with dermoscope, comprising:

a receiving unit for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image from the user terminal;

an image storage for storing the received skin image after associating the source information and the time information with the skin image;

a first diagnosis program which is updated based on the data stored in the database and takes out the skin image stored in the image storage to diagnose the skin image for a skin lesion;

a diagnosis result storage for storing a diagnosis result for the skin image after associating the source information and the time information with the diagnosis result;

a second diagnosis program capable of diagnosing the skin lesion based on plural diagnosis results for the skin lesion of the skin image, which are stored in the diagnosis result storage and different in time information; and

a sending unit for sending at least one of diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

15. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, comprising

receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope;

diagnosing the received skin image for the skin lesion; and

sending a diagnosis result to a predetermined destination.

16. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, comprising

a diagnosis program for diagnosing skin images for the skin lesion and

an image storage for storing the skin images to be diagnosed;

the remote diagnosis apparatus

receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion,

storing the received skin image in the image storage after associating the source information with the skin image,

taking out the skin image stored in the image storage and diagnosing the skin image for the skin lesion with the use of the diagnosis program, and

sending a diagnosis result to a destination designated by the source information.

17. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, comprising:

a receiving unit for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion;

an image storage for storing the received skin image after associating the source information with the skin image;

a diagnosis program for taking out the skin image stored in the image storage to diagnose the skin image for the skin lesion; and

a sending unit for sending a diagnosis result of the diagnosis program to a destination designated by the source information.

18. The remote diagnosis apparatus according to any one of claims 9 to 17, characterized in that the user terminal is provided with a portable telephone function.

19. The remote diagnosis apparatus according to any one of

claims 9 to 18, characterized in that the user terminal communicates via the Internet.

20. The remote diagnosis apparatus according to any one of claims 1 to 19, characterized in that the dermoscope comprises a polarizing filter.

21. The remote diagnosis apparatus according to any one of claims 1 to 20, characterized in that the skin lesion of a diagnosis object is melanoma.

22. A remote diagnosis system for diagnosing a skin lesion, comprising:

- a first user terminal;

- a second user terminal provided with a camera device with dermoscope;

- a remote diagnosis apparatus communicably connected to the first user terminal and the second user terminal and

- comprises a database for storing data which are received from the first user terminal and relate to the skin lesion; and a diagnosis program relating to the skin lesion which is updated based on the data stored in the database, wherein

- the second user terminal sends a skin image of a pigmented deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus, and

- the remote diagnosis apparatus

- receives the skin image,

- diagnoses the received skin image for the skin lesion with the use of the diagnosis program, and

- sends a diagnosis result to a predetermined destination.

23. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the first and the second user terminals, wherein

the first user terminal comprises a sending unit for sending data relating to the skin lesion to the remote diagnosis apparatus,

the second user terminal comprises a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus, and

the remote diagnosis apparatus comprises

a data receiving unit for receiving the data from the first user terminal,

a database for storing the data which are received from the first user terminal and relate to the skin lesion,

an image receiving unit for receiving the skin image from the second user terminal,

a diagnosis program which is updated based on the data stored in the database and diagnoses the skin image received from the second user terminal for the skin lesion, and

a sending unit for sending a diagnosis result to a predetermined destination.

24. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a database control server communicably connected to the first user terminal and provided with a database for storing data which are received from the first user terminal and relate to the skin

lesion;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the database control server and the second user terminal and provided with a diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion, wherein

the second user terminal sends a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope; and

the remote diagnosis apparatus

diagnoses the skin image received from the second user terminal for the skin lesion with the use of the diagnosis program and

sends a diagnosis result to a predetermined destination.

25. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a database control server communicably connected to the first user terminal;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the database control server and the second user terminal, wherein

the first user terminal comprises a sending unit for sending data relating to the skin lesion to the remote diagnosis apparatus,

the database control server comprises

a data receiving unit for receiving the data from the first

user terminal and

a database for storing the data which are received from the first user terminal and relate to the skin lesion;

the second user terminal comprises a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus, and

the remote diagnosis apparatus comprises

a receiving unit for receiving the skin image from the second user terminal;

a diagnosis program which is updated based on the data stored in the database and diagnoses the skin image received from the second user terminal for the skin lesion; and

a sending unit for sending a diagnosis result to a predetermined destination.

26. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the first and the second user terminals and comprises a database for storing data which are received from the first user terminal and relate to the skin lesion, a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion, and a second diagnosis program for diagnosing based on plural diagnosis results for the skin lesion, wherein

the second user terminal sends a first skin image of a pigmentary deposition portion picked up by the camera device with



dermoscope to the remote diagnosis apparatus;

the remote diagnosis apparatus

receives the first skin image and

diagnoses the received skin image for the skin lesion with the use of the first diagnosis program;

the second user terminal sends a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point to the remote diagnosis apparatus;

the remote diagnosis apparatus

receives the second skin image and

diagnoses the received second skin image for the skin lesion with the use of the first diagnosis program;

the remote diagnosis apparatus

diagnoses the skin lesion by comparing the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program and

sends at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a predetermined destination.

27. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the first and the second user terminals, wherein

the first user terminal comprises

a sending unit for sending data relating to the skin lesion

to the remote diagnosis apparatus;

the second user terminal comprises a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image to the remote diagnosis apparatus; and

the remote diagnosis apparatus comprises

a data receiving unit for receiving the data from the first user terminal;

a database for storing the data which are received from the first user terminal and relate to the skin lesion;

an image receiving unit for receiving the skin image, the source information, and the time information from the second user terminal;

an image storage for storing the received skin image after associating the source information and the time information with the skin image;

a first diagnosis program which is updated based on the data stored in the database and diagnoses the skin image taken out from the storage for the skin lesion;

a second diagnosis program capable of diagnosing the skin lesion based on plural diagnosis results for the skin lesion of the skin image, which are stored in the diagnosis result storage and different in time information; and

a sending unit for sending at least one of diagnosis results of the first diagnosis program and the second diagnosis program to a predetermined destination.

28. A remote diagnosis system for diagnosing a skin lesion,

comprising:

- a first user terminal;

- a database control server communicably connected to the first user terminal and provided with a database for storing data which are received from the first user terminal and relate to the skin lesion;

- a second user terminal provided with a camera device with dermoscope; and

- a remote diagnosis apparatus communicably connected to the second user terminal and comprising a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion, and a second diagnosis program for diagnosing the skin lesion based on a comparison of plural diagnosis results, wherein

- the second user terminal sends a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus;

- the remote diagnosis apparatus

- receives the first skin image and

- diagnoses the received first skin image for the skin lesion with the use of the first diagnosis program;

- the second user terminal sends a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope to the remote diagnosis apparatus;

- the remote diagnosis apparatus

- receives the second skin image,

- diagnoses the received second skin image for the skin lesion with the use of the first diagnosis program,

diagnoses the skin lesion based on a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program, and

sends at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to the second user terminal.

29. A remote diagnosis system for diagnosing a skin lesion, comprising:

a first user terminal;

a database control server communicably connected to the first user terminal;

a second user terminal provided with a camera device with dermoscope; and

a remote diagnosis apparatus communicably connected to the database control server and the second user terminal, wherein

the first user terminal comprises a sending unit for sending data relating to the skin lesion to the remote diagnosis apparatus;

the database control server comprises

a data receiving unit for receiving the data from the first user terminal and

a database for storing the data received from the first user terminal;

the second user terminal comprises a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image to the remote diagnosis apparatus; and

the remote diagnosis apparatus comprises

an image receiving unit for receiving the skin image, the source information, and the time information from the second user terminal;

an image storage for storing the skin image after associating the source information and the time information with the skin image;

a first diagnosis program which is updated based on the data stored in the database and diagnoses the received skin image for the skin lesion;

a second diagnosis program capable of diagnosing based on plural diagnosis results for the skin lesion;

a diagnosis result storage for storing the diagnosis results; and

a sending unit for sending the diagnosis result to a predetermined destination.

30. The system according to any one of claims 22 to 29, characterized in that the second user terminal is provided with a portable telephone function.

31. The system according to any one of claims 22 to 30, characterized in that the second user terminal communicates via the Internet.

32. A remote diagnosis system for diagnosing a skin lesion, comprising:

a user terminal provided with a camera device with dermoscope and

a remote diagnosis apparatus communicably connected to the user terminal, wherein

the user terminal sends a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope

and source information for identifying the pigmentary deposition portion to the remote diagnosis apparatus, and

the remote diagnosis apparatus diagnoses the skin image received from the user terminal for the skin lesion to send a diagnosis result to a destination designated by the source information.

33. A remote medical diagnosis system for diagnosing presence/absence and a disease state of a skin lesion, comprising:

a user terminal provided with a camera device with dermoscope and

a remote diagnosis apparatus communicably connected to the user terminal, wherein

the user terminal comprises a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus, and

the remote diagnosis apparatus comprises

a receiving unit for receiving the skin image of the pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion;

an image storage for storing the received skin image after associating the source information with the skin image;

a diagnosis program taking out the skin image from the image storage to diagnose the skin image for the skin lesion; and

a sending unit for sending a diagnosis result obtained by the diagnosis to a destination designated by the source information.

34. A remote diagnosis system for diagnosing a skin lesion, comprising:

a user terminal provided with a camera device with dermoscope;

a remote diagnosis apparatus communicably connected to the user terminal;

a first diagnosis program diagnosing skin images for the skin lesion;

and a second diagnosis program for diagnosing based on plural diagnosis results for the skin lesion, wherein

the user terminal sends a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus;

the remote diagnosis apparatus

receives the first skin image and

diagnoses the received first skin image for the skin lesion with the use of the first diagnosis program, and

the user terminal sends a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope to the remote diagnosis apparatus, and

the remote diagnosis apparatus

receives the second skin image,

diagnoses the second skin image for the skin lesion with the use of the first diagnosis program,

diagnoses the skin lesion based on a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program, and

sends at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination

designated by the source information.

35. A remote medical diagnosis system for diagnosing presence/absence and a disease state of a skin lesion, comprising:

a user terminal provided with a camera device with dermoscope and

a remote diagnosis apparatus communicably connected to the user terminal, wherein

the remote diagnosis apparatus comprises:

an image receiving unit for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image;

an image storage for storing the received skin image after associating the source information and the time information with the skin image;

a first diagnosis program for taking out the skin image from the image storage to diagnose the skin image for the skin lesion;

a diagnosis result storage for storing a diagnosis result after associating the source information and the time information with the diagnosis result;

a second diagnosis program for diagnosing the skin lesion based on plural diagnosis results for the skin lesion having different time information; and

a sending unit for sending at least one of diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

36. The system according to any one of claims 32 to 35, characterized in that the user terminal is provided with a portable



telephone function.

37. The system according to any one of claims 32 to 36, characterized in that the user terminal communicates via the Internet.

38. The system according to any one of claims 22 to 37, characterized in that the dermoscope comprises a polarizing filter.

39. The system according to any one of claims 22 to 38, characterized in that the skin lesion which is a subject of the diagnosis is melanoma.

40. A user terminal comprising:

a camera device with dermoscope provided with a polarizing filter;

a sending unit capable of sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion;

a receiving unit capable of receiving a diagnosis result obtained by diagnosing the skin image for a skin lesion or a pigmentary deposition; and

a portable telephone function.

41. A user terminal characterized in that the sending/receiving unit sends/receives to/from any one of the remote diagnosis apparatuses defined in claims 1 to 21.

42. The user terminal according to claim 40 or 41, characterized in that the sending unit capable of further sending time information relating to a time of sending.

43. The user terminal according to any one of claims 40 to 42, characterized by communicating with the remote diagnosis apparatus via the Internet.

44. The user terminal according to any one of claims 40 to 43, characterized in that the skin lesion which is a subject of the diagnosis is melanoma.

45. A program for causing a computer to execute a remote diagnosis for diagnosing a skin lesion, the computer being communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope and comprising a database for storing data which are received from the first user terminal and relate to the skin lesion, a diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion, and an image storage for storing the skin images to be diagnosed, wherein

the program causes the computer to execute

a step for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion from the second user terminal;

a step for storing the received skin image in the image storage after associating the source information with the skin image;

a step for taking out the skin image stored in the image storage and diagnosing the skin image for the skin lesion; and

a step for sending a diagnosis result to a destination designated by the source information.

46. A program for causing a computer to execute a remote diagnosis for diagnosing presence/absence and a disease state of a skin lesion, the computer being communicably connected to a first user terminal and a second user terminal provided with a camera device with dermoscope and comprising a database for storing data which are received from the first user terminal and relate to the

skin lesion, a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion, a second diagnosis program for diagnosing the skin lesion based on a comparison of plural diagnosis results for the skin lesion, an image storage for storing the skin images to be diagnosed, and a diagnosis result storage for storing a diagnosis result, wherein

the program causes the computer to execute

a step for receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image from the second user terminal,

a step for storing the first skin image in the image storage after associating the source information and the time information with the first skin image;

a step for taking out the first skin image stored in the image storage to diagnose the first skin image for the skin lesion with the use of the first diagnosis program;

a step for storing a diagnosis result for the first skin image in the diagnosis result storage after associating the source information and the time information with the diagnosis result;

a step for receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image from the second user terminal,

a step for storing the second skin image in the image storage

after associating the source information and the time information with the second skin image;

a step for taking out the second skin image stored in the image storage to diagnose the second skin image for the skin lesion with the use of the first diagnosis program;

a step for diagnosing the skin lesion based on a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program; and

a step for sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

47. A program for causing a computer to execute a remote diagnosis for diagnosing a skin lesion,

the computer being communicably connected to

a database control server communicably connected to the first user terminal and provided with a database for storing data which are received from the first user terminal and relate to the skin lesion and

a second user terminal provided with a camera device with dermoscope

and comprising a diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion and an image storage for storing the skin images to be diagnosed, wherein

the program causes the computer to execute

a step for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope and source information for identifying the pigmentary deposition portion from

the second user terminal;

a step for storing the received skin image in the image storage after associating the source information with the skin image;

a step for taking out the stored skin image and diagnosing the skin image for the skin lesion with the use of the diagnosis program; and

a step for sending a diagnosis result to a destination designated by the source information.

48. A program for causing a computer to execute a remote diagnosis for diagnosing a skin lesion,

the computer being communicably connected to

a database control server communicably connected to the first user terminal and provided with a database for storing data which are received from the first user terminal and relate to the skin lesion and

a second user terminal provided with a camera device with dermoscope

and comprising

a first diagnosis program which is updated based on the data stored in the database and diagnoses skin images for the skin lesion;

a second diagnosis program for diagnosing the skin lesion based on a comparison of plural diagnosis results for the skin lesion;

an image storage for storing the skin images to be diagnosed; and

a diagnosis result storage for storing a diagnosis result, wherein

the program causes the computer to execute

a step for receiving a first skin image of a pigmentary

deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image from the second user terminal;

a step for storing the received first skin image in the image storage after associating the source information and the time information with the first skin image;

a step for taking out the stored first skin image to diagnose the first skin image for the skin lesion with the use of the first diagnosis program;

a step for storing a diagnosis result for the first skin image in the diagnosis result storage after associating the source information and the time information with the diagnosis result;

a step for receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope, source information for identifying the skin lesion, and time information relating to a time of sending the skin image from the second user terminal;

a step for storing the received second skin image after associating the source information and the time information with the second skin image;

a step for taking out the stored second skin image to diagnose the second skin image for the skin lesion with the use of the first diagnosis program;

a step for diagnosing the skin lesion based on a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program; and

a step for sending at least one of the diagnosis results of

the first diagnosis program and the second diagnosis program to a destination designated by the source information.

49. A program for causing a computer to execute a remote diagnosis for diagnosing a skin lesion,

the computer being communicably connected to

a user terminal provided with a camera device with dermoscope and comprising

a diagnosis program for diagnosing skin images for the skin lesion and

an image storage for storing the skin images to be diagnosed, wherein

the program causes the computer to execute

a step for receiving a skin image picked up by the camera device with dermoscope and source information for identifying the user terminal with the dermoscope;

a step for storing the received skin image in the image storage after associating the source information with the skin image;

a step for taking out the skin image stored in the image storage and diagnosing the skin image for the skin lesion with the use of the diagnosis program; and

a step for sending a diagnosis result to a destination designated by the source information.

50. A program for causing a computer to execute a remote diagnosis for diagnosing a skin lesion,

the computer being communicably connected to

a user terminal provided with a camera device with dermoscope and comprising

a first diagnosis program for diagnosing the skin images for the skin lesion;

a second diagnosis program for diagnosing the skin lesion based on a comparison of plural diagnosis results for the skin lesion;

an image storage for storing the skin images to be diagnosed;  
and

a diagnosis result storage for storing a diagnosis result,  
wherein

the program causes the computer to execute

a step for receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending;

a step for storing the first skin image in the image storage after associating the source information and the time information with the first skin image;

a step for taking out the first skin image stored in the image storage to diagnose the first skin image for the skin lesion with the use of the first diagnosis program;

a step for storing a diagnosis result for the first skin image in the diagnosis result storage after associating the source information and the time information with the diagnosis result;

a step for receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope, source information for identifying the second pigmentary deposition portion, and time information relating to a time of sending;

a step for storing the received second skin image in the image storage after associating the source information and the time information with the second skin image;



a step for taking out the second skin image stored in the image storage to diagnose the second skin image for the skin lesion with the use of the first diagnosis program;

a step for diagnosing the skin lesion based on a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program; and

a step for sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

51. A storage storing the program defined in any one of claims 45 to 50 in a machine-readable form.

52. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, the remote diagnosis apparatus comprising:

a first diagnosis program diagnosing skin images for the pigmentary deposition and

a second diagnosis program for diagnosing based on plural diagnosis results for the pigmentary deposition

and

receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope from the user terminal;

diagnosing the first skin image for the pigmentary deposition with the use of the first diagnosis program;

storing a diagnosis result for the first skin image;

receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point from the user terminal;

diagnosing the second skin image for the pigmentary deposition with the use of the first diagnosis program;

comparing the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program; and

sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

53. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, the remote diagnosis apparatus comprising:

a first diagnosis program diagnosing skin images for the pigmentary deposition;

a second diagnosis program for diagnosing based on plural diagnosis results for the pigmentary deposition;

an image storage for storing the skin images to be diagnosed;  
and

a diagnosis result storage for storing a diagnosis result,  
receiving a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and first time information relating to a time of sending the first skin image from the user terminal,

storing the received first skin image in the image storage after associating the source information and the first time information with the first skin image,

taking out the first skin image stored in the image storage to diagnose the first skin image for the pigmentary deposition with the use of the first diagnosis program,

storing a diagnosis result for the first skin image in the diagnosis result storage after associating the source information and the first time information with the diagnosis result,

receiving a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point, source information for identifying the pigmentary deposition portion, and second time information relating to a time of sending from the user terminal,

storing the second skin image in the diagnosis result storage after associating the source information with the second skin image,

taking out the stored second skin image to diagnose the second skin image for the pigmentary deposition with the use of the first diagnosis program,

diagnosing through a comparison between the diagnosis result for the first skin image and a diagnosis result for the second skin image with the use of the second diagnosis program, and

sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

54. A remote diagnosis apparatus communicably connected to a user terminal provided with a camera device with dermoscope, the remote diagnosis apparatus comprising:

a receiving unit for receiving a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image from the user terminal;

an image storage for storing the received skin image after

associating the source information and the time information with the skin image;

a first diagnosis program for taking out the skin image stored in the image storage to diagnose the skin image for a pigmentary deposition;

a diagnosis result storage for storing a diagnosis result after associating the source information and the time information with the diagnosis result for the skin image;

a second diagnosis program capable of diagnosing the pigmentary deposition based on plural diagnosis results for the pigmentary deposition of the skin image, which are stored in the diagnosis result storage and different in time information; and

a sending unit for sending at least one of diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

55. The remote diagnosis apparatus according to any one of claims 52 to 54, characterized in that the user terminal is provided with a portable telephone function.

56. The remote diagnosis apparatus according to any one of claims 52 to 55, characterized in that the user terminal communicates via the Internet.

57. A remote diagnosis system for diagnosing a skin having a pigmentary deposition, comprising

a user terminal provided with a camera device with dermoscope and

a remote diagnosis apparatus communicably connected to the user terminal and comprising

a first diagnosis program for diagnosing skin images for the pigmentary deposition and

a second diagnosis program capable of diagnosing the pigmentary deposition based on a comparison of plural results of the diagnosis, wherein

the user terminal sends a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope to the remote diagnosis apparatus;

the remote diagnosis apparatus  
receives the first skin image and

diagnoses the received first skin image for the pigmentary deposition with the use of the first diagnosis program;

the user terminal sends a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope to the remote diagnosis apparatus;

the remote diagnosis apparatus  
receives the second skin image;

diagnoses the received second skin image for the pigmentary deposition with the use of the first diagnosis program;

diagnosing the pigmentary deposition based on a comparison between the diagnosis result for the first skin image with a diagnosis result for the second skin image with the use of the second diagnosis program; and

sends at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to the second user terminal.

58. A remote diagnosis system for diagnosing a pigmentary deposition, comprising:

a user terminal provided with a camera device with dermoscope  
and

a remote diagnosis apparatus communicably connected to the

user terminal, wherein

the user terminal comprises

a sending unit for sending a skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and time information relating to a time of sending the skin image to the remote diagnosis apparatus, and

the remote diagnosis apparatus comprises:

an image receiving unit for receiving the skin image, the source information, and the time information from the second user terminal;

an image storage for storing the received skin image after associating the source information and the time information with the skin image;

a first diagnosis program for diagnosing the received skin image for the pigmentary deposition;

a second diagnosis program capable of diagnosing based on plural diagnosis results for the pigmentary deposition;

a diagnosis result storage for storing the diagnosis result; and

a sending unit for sending the diagnosis result to a predetermined destination.

59. The system according to claim 57 or 58, characterized in that the user terminal is provided with a portable telephone function.

60. The system according to any one of claims 57 to 59, characterized in that the user terminal communicates via the Internet.

61. A remote diagnosis method for diagnosing a pigmentary

deposition other than skin lesions using a remote diagnosis apparatus which is communicably connected to a user terminal provided with a camera device with dermoscope and comprises:

- an image receiving unit for receiving a skin image to be diagnosed from the user terminal;

- an image storage for storing a skin image;

- a first diagnosis program for diagnosing skin images for the pigmentary deposition;

- a second diagnosis program diagnosing based on plural diagnosis results for the pigmentary deposition;

- a diagnosis result storage for storing the diagnosis results;
- and

- a diagnosis result sending unit for sending at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to the user terminal, wherein

- the image receiving unit receives a first skin image of a pigmentary deposition portion picked up by the camera device with dermoscope, source information for identifying the pigmentary deposition portion, and first time information relating to a time of sending the first skin image from the user terminal;

- the image storage stores the first skin image after associating the source information and the first time information with the skin image;

- the first diagnosis program takes out the first skin image stored in the image storage to diagnose the first skin image for the pigmentary deposition;

- the diagnosis result storage stores a diagnosis result for the first skin image after associating the source information and the first time information with the diagnosis result;

the image receiving unit receives a second skin image of the pigmentary deposition portion same as the first skin image picked up by the camera device with dermoscope at a different time point, source information for identifying the pigmentary deposition portion, and second time information relating to a sending time from the user terminal;

the diagnosis result storage stores the received second skin image after associating the source information with the second skin image;

the first diagnosis program takes out the stored second skin image to diagnose the second skin image for the pigmentary deposition;

the second diagnosis program diagnoses through a comparison between the diagnosis result for the first skin image and the diagnosis result for the second skin image;

the diagnosis result sending unit sends at least one of the diagnosis results of the first diagnosis program and the second diagnosis program to a destination designated by the source information.

62. A diagnosis program which is updated based on plural skin images stored in a database of which diagnoses have been determined and used for diagnosing skin images to be diagnosed for a skin lesion, the diagnosis program causing a computer to execute

a step for performing image processing by separating a pigmentary disorder portion of a skin lesion from a peripheral normal portion in each of plural skin images on which the diagnoses have been made and separating a rim portion of the separated pigmentary disorder portion;

a step for deciding parameters to be used for discrimination



of characteristics of the pigmentary disorder, such as a color, a texture, an asymmetry, and a circularity; and

a step for performing evaluation of each of the parameters using a predetermined system on the diagnosed skin images with the use of each of the parameters, performing evaluation of each of other parameters using the predetermined system on the diagnosed skin images with the use of each of other parameters, repeating the same operation until a diagnosis capability of any one of parameter combinations reaches a predetermined value, and, ultimately, selecting a parameter combination having a smallest number of parameters from the parameter combinations having the diagnosis capability equal to or more than the predetermined value.

63. The diagnosis program according to claim 62, wherein the program further causes the computer to execute

a step for performing the image processing on a skin image to be diagnosed and

a step for obtaining a diagnosis result for the skin image to be diagnosed using the predetermined system with the use of the parameter combination selected in the fourth step.

64. The diagnosis program according to claim 62 or 63, characterized in that the predetermined system is a neural network system.

65. The diagnosis program according to any one of claims 62 to 64, characterized in that at least one of the parameter evaluations is performed by employing a leave-one-out method.

66. The diagnosis program according to any one of claims 62 to 65, characterized in that the skin lesion which is a subject of the diagnosis is melanoma.

67. A storage storing the program defined in any one of claims

62 to 66 in a machine-readable form.

68. A method for screening a cosmetic agent or a drug for diminishing a pigmentary deposition of skin using the remote diagnosis apparatus according to any one of claims 52 to 56.

69. A method for screening a cosmetic agent or a drug for diminishing a pigmentary deposition of skin using the remote diagnosis system according to any one of claims 57 to 60.

70. A method for screening a cosmetic agent or a drug for diminishing a pigmentary deposition of skin using the remote diagnosis method according to claim 61.